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NOTICE OF ALLOWANCE AND FEE(S) DUE

64107

7590

19/01/2009

KOKKA & BACKUS, PC
200 PAGE MILL ROAD
SUITE 103
PALO ALTO, CA 94306

EXAMINER

WANG, RONGQIA PHILIP

ART UNIT

PAPER NUMBER

2191

DATE MAILED: 10/01/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,705	05/24/2004	Jonathan K. Weedon	BOR-011	3704

TITLE OF INVENTION: SYSTEM AND METHODOLOGY FOR CROSS LANGUAGE TYPE SYSTEM COMPATIBILITY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	01/04/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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nonprovisional	NO	\$1510	\$0	\$0	\$1510	01/04/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
WANG, RONGFA PHILIP	2191	717-137000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2
 3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____
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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.**

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			ART UNIT	PAPER NUMBER
			2191	
DATE MAILED: 10/01/2009				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 882 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 882 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability**Application No.**

10/709,705

Applicant(s)

WEEDON ET AL.

Examiner

PHILIP WANG

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communication filed on 8/25/2009.
2. ☒ The allowed claim(s) is/are 1-13, 15, 19-34, 36 and 40-47.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Philip R. Wang/ Patent Examiner
9/24/2009

DETAILED ACTION

1. This office action is in response to amendment filed on 8/25/2009.
2. The 35 U.S.C. § 101 rejections of claims 11-20 are withdrawn in view of the Applicant's persuasive argument.
3. Claim objection of claim 15, 17, 36 and 38 have been withdrawn in view of the Applicant's amendment to the claim.
4. Per Applicant's request, claims 1, 15, 18, 22, and 36 have been amended and claims 14, 16, 17, 35, 37, and 38 have been cancelled.
5. Claims 1-13, 15, 19-34, 36, and 40-47 are allowed.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in communication with Scott S. Kokka (Reg. No. 51,893) on September 22, 2009 to obviate any potential issues and to put the claims in condition for allowance.

6. The application has been amended as follows:
 1. (Currently amended) A system for translation of data types between a first application in a first language and a second application in a second language, the system comprising:
 - a computer having at least one processor and a memory configured to generate;
 - a formal mapping between data types of the first language and data types of the second language;

translators for translating data types between the first language and the second language based on the formal mapping;

a translation mapping to the translators based on actual data types of the first application and formal data types of the second application; and

a module for automatically selecting an appropriate translator for translating between a particular data type in the first language and a data types in the second language based on the translation mapping in response to invocation of a method of the first application with the particular data type,

wherein the module for selecting the appropriate translator is configured to perform at least a two-level lookup in the translation mapping to select the appropriate translator,

wherein a first level of the two-level lookup includes a lookup of a ~~full~~ inheritance hierarchy of the actual type to determine a candidate set of translators ~~select the appropriate translator~~ and,

wherein a second level lookup of the two-level lookup includes a lookup based on a formal data type of the second application and selection of an appropriate translator from the candidate set of translators determined by the first level of the two-level lookup.

15. (Currently amended) The system of claim 1, wherein the ~~two-level~~ two-level lookup includes a first level lookup based on an actual data type of the first application.

18. (Canceled)

22. (Currently amended) A method for translation of data types between a first component in a first language and a second component in a second language, the method comprising:

using a computer having a processor and a memory, the computer being configured to:

defin~~[[ing]]~~ a formal mapping between data types of the first language and data types of the second language;

implement~~[[ing]]~~ translators based on the formal mapping for translating data types between the first language and the second language;

produce~~[[ing]]~~ a programming interface for the first component based upon the formal mapping and the second component's programming interface;

generat[ing] a translation mapping to the translators based on actual data types of the first component and formal data types of the second component as defined in the first component's programming interface;

in response to invocation of a method defined in the first component's programming interface with a particular data type, automatically select[ing] a translator based on the translation mapping and the particular data type; and

translat[ing] the particular data type to a data type of the second language using the selected translator,

wherein automatically selecting the translator includes performing a two-level lookup in the translation mapping,

wherein performing a first level of the two-level lookup includes looking up a[n] full inheritance hierarchy of the actual type to determine a candidate set of translators, and

wherein performing a second level of the two-level lookup includes a lookup based on a formal data type of the second component and selection of an appropriate translator from the candidate set of translators determined by the first level of the two-level lookup.

26. (Currently amended) The method of claim 22, wherein ~~[[the]]~~defining step the formal mapping includes defining a mapping between formal types of the first language and formal types of the second language.

27. (Currently amended) The method of claim 22, wherein ~~[[the]]~~defining step the formal mapping includes defining a many-to-one mapping.

28. (Currently amended) The method of claim 22, wherein ~~[[the]]~~implementing step the translators includes implementing a translator for marshaling translated data into a wire format for transfer from the first component to the second component across a network.

29. (Currently amended) The method of claim 22, wherein ~~[[the]]~~implementing step the translators includes implementing a translator reading data of a first type and writing data of a second type.

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30. (Currently amended) The method of claim 22, wherein ~~[[the]]implementing-step~~ the translators includes indicating the actual type in the first language that a particular translator supports.

31. (Currently amended) The method of claim 22, wherein ~~[[the]]implementing-step~~ the translators includes indicating the formal type in the second language that a particular translator supports.

32. (Currently amended) The method of claim 22, wherein ~~[[the]]generating-step~~ the translation mapping includes generating the translation mapping based, at least in part, on information provided by the translators.

36. (Currently amended) The method of claim 22, wherein the ~~two-level~~ two-level lookup includes a first level lookup based on an actual data type of the first component.

39. (Canceled)

40. (Currently amended) The method of claim 22, wherein ~~[[the]]~~automatically selecting ~~[[step]]~~the translator includes determining if the translation mapping includes at least one translator for the particular data type.

41. (Currently amended) The method of claim 22, wherein ~~[[the]]~~automatically selecting ~~[[step]]~~the translator includes determining if the translation mapping includes at least one translator for interfaces of the particular data type.

42. (Currently amended) The method of claim 22, wherein ~~[[the]]~~automatically selecting ~~[[step]]~~the translator includes determining if the translation mapping includes at least one translator for base types of the particular data type.

-end of currently amended claims-

7. The following is an examiner's statement of reasons for allowance:

The cited prior art taken alone or in combination fail to teach the limitation "wherein the module for selecting the appropriate translator is configured to perform at least a two-level lookup in the translation mapping to select the appropriate translator,

wherein a first level of the two-level lookup includes a lookup of a full inheritance hierarchy of the actual type to determine a candidate set of translators and,

wherein a second level lookup of the two-level lookup includes a lookup based on a formal data type of the second application and selection of an appropriate translator from the candidate set of translators determined by the first level of the two-level lookup.

" as recited in independent claims 1 and 22.

The closest cited prior arts; USPGN 2004/0123275 by Brown et al. teaches a method of selecting a translator using requester type identifier and recipient input property type identifier. It does specifically disclose determining a particular translator using a two-level lookup involving a first level lookup of a full inheritance hierarchy of the actual type of a first application to determine a candidate set of translators and a second level lookup of selecting the particular translator from the candidate set of translators based on a formal type of a second application as recited in the claim language of independent claims. The previous recited prior art by Moore et al. (USPN 6,408,342) discloses invoking a translator through an interface function. It does not specifically disclose at least building a candidate set of translators according to a full inheritance hierarchy of an actual type.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Wang whose telephone number is 571-272-5934. The examiner can normally be reached on Mon - Fri 8 - 44:00PM. Any inquiry of general nature or relating to the status of this application should be directed to the TC2100 Group receptionist: 571-272-2100.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).